



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/593,305

09/18/2006

Paul A Delve

36-2002

7449

23117 7590 06/08/2009  
NIXON & VANDERHYE, PC  
901 NORTH GLEBE ROAD, 11TH FLOOR  
ARLINGTON, VA 22203

EXAMINER

TRAN, DZUNG D

ART UNIT

PAPER NUMBER

2613

MAIL DATE

DELIVERY MODE

06/08/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/593,305	<b>Applicant(s)</b> DELVE ET AL.	
	<b>Examiner</b> Dzung D. Tran	<b>Art Unit</b> 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Specification*

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Soto et al. US 2008/0166124.

Regarding claims 1 and 17, Soto discloses in Figures 2, 8, 9 a central station (i.e., OLT 150) for receiving data from a plurality of outstations (i.e., ONU/ONT 155, 160), the central station being configured to execute, in use, a compensation procedure for compensating for degradation of data from the outstations (paragraph 0051), the compensation procedure having at least one adjustable characteristic governed by a parameter set, wherein the compensation procedure includes the steps of: (i) compensating data from an outstation using different starting parameter sets; (ii) measuring the quality of the data compensated using the different starting parameter sets; and, (iii) in dependence on the measured quality, selecting a starting parameter set for compensating subsequent arriving data from that outstation (Figures 8, 9; paragraphs 0052-0054).

Regarding claims 2 and 3, Soto discloses wherein the central station is configured to store a parameter set in respect of each outstation (step 801 of Figure 8).

Regarding claim 4, Soto discloses wherein steps (i) to (iii) are performed in response to the receipt of data from a newly connected outstation (paragraph 0054).

Regarding claim 5, Soto discloses wherein a parameter set is selected from other starting parameter sets by comparing the quality achieved with the different sets (paragraphs 0021, 0050-0052).

Regarding claim 6, Soto discloses wherein test data from an outstation is used to evaluate starting parameter sets, a copy of the test data being stored at the central station, preferably in advance of the arrival of the test data from an outstation (paragraphs 0052-0054).

Regarding claim 7, Soto discloses wherein the parameter sets each include a plurality of parameters (paragraph 0051).

Regarding claim 8, Soto discloses wherein the central station is configured for receiving data from the outstations across an optical network (paragraphs 0051-0052).

Regarding claim 9, Soto discloses wherein the compensation procedure is executed in the electrical domain (see Figure 7; paragraph 0050).

Regarding claim 10, Soto discloses wherein the compensation procedure includes the steps of: sampling a stream of data from an outstation at a plurality of time positions within the stream and, performing a respective function on each sample (see Figure 8; paragraph 0052).

Regarding claims 11 and 12, Soto discloses wherein the central station is configured to transmit a scheduling instruction to an outstation in order to receive data from that outstation, which scheduling instruction contains a command for allowing that outstation to transmit data for a specified time (paragraph 0052).

Regarding claim 13, Soto discloses wherein the parameter set used when applying the compensation procedure to incoming data is chosen in dependence on a stored scheduling instruction (paragraph 0052).

Regarding claim 14, Soto discloses wherein the scheduling instructions contain an identifier identifying the outstation from which data is allowed, and wherein the identifier is used to retrieve the parameter set associated with the identified outstation (paragraph 0054; i.e., OLT assign and send the ONU/ONT an identification number).

Regarding claim 15, Soto discloses wherein the compensation procedure includes an adaptive algorithm, the adaptive algorithm being configured such that when data from an outstation is received, the values of the parameters for that outstation are improved, relative to a set of initial values, using said received data (paragraph 0054).

Regarding claim 16, Soto discloses wherein the central station is configured such that when the origin of arriving data changes from a first outstation to a second outstation, the central station: (i) stores, for later retrieval, the improved values of the parameters in respect of data from the first outstation; (ii) retrieves previously stored parameters in respect of the second outstation; (iii) in response to expected or arriving further data from the first outstation, retrieves previously improved values of the

Art Unit: 2613

parameters in respect of the first outstation; (iv), and, preferably, further improves the parameters for the first outstation (Figures 8, 9; paragraphs 0052-0054).

Regarding claim 18, Soto discloses wherein the communications system includes an optical network for connecting the central station to the outstations (see Figure 2).

Regarding claim 19, Soto discloses wherein the optical network includes a branch junction for channelling signals from at least two outstations onto a common optical carrier, the outstations being configured to transmit data at intervals such that in use the transmitted data from the outstations is passively time division multiplexed (paragraph 0051).

Regarding claim 20, Soto discloses wherein the central station stores predetermined data, and the or each outstation stores corresponding predetermined data, and wherein the or each outstation transmits its predetermined data to the central station, such that the predetermined data stored at the central station can be compared with the received predetermined data (Figures 8, 9; paragraphs 0052-0054).

Regarding claim 21, Soto discloses wherein the stored predetermined data and the received predetermined data is compared in order to measure the quality of the data compensated using the different starting parameter sets (step 801 of Figure 8).

Regarding claim 22, Soto discloses the predetermined data stored at an outstation and that stored at the central station include at least some data in common (paragraphs 0052-0054).

Regarding claim 23, Soto discloses the central station being configured to execute a compensation procedure for compensating for degradation of data from the

Art Unit: 2613

outstations, the compensation procedure having at least one adjustable characteristic governed by a parameter set, wherein the central station stores at least one parameter set in respect of each outstation and, for each outstation, applies the compensation algorithm to data from an outstation using the parameter set associated with that outstation (paragraphs 0052-0054).

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Soto et al. U.S. Patent no. 7,242,868. System and method for performing high speed communication over fiber optical networks

b. Jayaraman et al. U.S. Publication no. 2004/0037354. Communication receiver with virtual parallel equalizers

c. Soto et al. U.S. Publication no. 2005/0019036. System and method for performing high speed communication over fiber optical networks

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung D Tran whose telephone number is (571) 272-3025. The examiner can normally be reached on 9:00 AM - 7:00 PM.

Art Unit: 2613

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vanderpuye Kenneth, can be reached on (571) 272-3078. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dzung Tran

06/05/2009

/Dzung D Tran/

Primary Examiner, Art Unit 2613